

REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

New claims 15 and 16 have been added to highlight further patentable features of the present invention.

Claims 1, 2, 5, 6, 8, 10 and 11-13 stand rejected under 35 U.S.C. 102(e) as being anticipated by Lau et al. 5,873,906. Claims 3, 4, 9 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. 5,873,906. The Applicant respectfully traverses these rejections.

The present invention relates to a prosthesis which has a very supple and reliable structure, which can be brought, very easily and in complete safety, from a folded position, in which it can be implanted in an artery, into a deployed position in the artery, and which can be kept in this deployed position in complete safety.

To this end, according to present claim 1, the structure comprises at least one mesh comprising a corrugated filament forming approximately annular units linked together. At least some corrugations of the corrugated filament of two respective adjacent units of the annular units being linked together by a plurality of linking means. At least some of the linking means comprise links which are made as a rigid piece and which are provided with at least two loops joined together and in that, for each of the links,

each of the two loops of the link entraps, with some clearance, a respective one of the two corrugations which are to be linked together.

In contrast, Lau et al. fail to disclose "a corrugated filament forming approximately annular units linked together" as recited in claim 1.

Thus, the reference does not disclose each element of the claimed invention, and the rejection of claim 1 fails on at least this ground.

Moreover, Lau et al. fail to disclose a link made as a rigid piece including at least two rigid loops joined together as recited in claim 1, but rather discloses flexible linkages 124. Linkage 124 of Lau et al.'s Fig. 3 (see col. 11, lines 18-24) is a flexible thread which is free to move away from the corrugations. Accordingly, the linkage 124 of Lau et al. is not a rigid piece and does not have two rigid loops joined together. Thus, the Lau et al. structure differs from the present claimed invention in at least this significant respect.

The Applicant notes that Webster's dictionary defines:

flexible- "capable of being turned, bowed or twisted;"

rigid- "lacking or devoid of flexibility: inflexible in nature."

The portions of Lau et al. cited in the Final Rejection (col. 8, line 66 to col. 9, line 2 and col. 14, lines 34-40) all describe solely a "flexible linkage" (see col. 8, line 66, col. 9, line 4, col. 12, line 39 and col. 14, line 34). The Lau et al. linkage is throughout the reference defined as flexible.

The Applicant notes that metallic pieces may be either flexible or rigid. The specific element recited in the present claimed invention is rigid, while the specific metal arrangement disclosed by Lau et al. is stated to be flexible.

Since the link of claim 1 is a rigid piece, the loops do not deform in the linking position and the structure is stable. On the other hand, flexible linkage 124 of Lau et al. is deformed by the movement of the corrugated filaments 104.

Accordingly, the reference does not disclose this aspect of the claimed invention, and the rejection of claim 1 fails on at least this ground.

Further, claim 1 recites that each of the two loops entraps, with some clearance, a respective one of the two corrugations. In contrast, Lau et al. disclose a flexible linkage 124 that is tight and in contact with the corrugated filament 104 without any clearance.

Accordingly, the reference does not disclose this feature of the claimed invention, and the rejection of claim 1 fails on at least this ground.

With respect to new claim 15, both of the noted embodiments (Figs. 3 and 9) of Lau et al. fail to teach or suggest the subject matter of this new claim.

New claim 15 recites that each of the links is provided with a single central portion, and, at each of the ends of the single central portion, with an end portion which is in the shape of an arc of a circle prior to forming the link. Each end portion forms a closed loop in a linking position after the link is formed. Each of the two closed loops of each of the links entraps, in the linking position, within a clearance, the respective one of the two of the corrugations which are to be linked together. This structure provides advantages, as discussed at application page 3, line 34 - page 4, line 14, because each link has at least two loops, i.e., one loop per corrugation or part of filament to be linked, the parts of filament thus linked are independent of one another, thus improving the suppleness of the structure. This is achieved first by preventing these parts of the filament from rubbing together and, secondly, by separating from one another the two parts of the structure which are associated one with each of these two parts of the filament.

Contrast of Claim 15 with Fig. 3 embodiment

In new claim 15, each of the links is provided with (1) a single central portion, and (2) at each of the ends of the single central portion, with an end portion which is in the shape of an arc of a circle prior to forming the link. In contrast, the flexible linkage 124 of Lau et al. has many central portions and many loops, with each loop being connected to two central portions. This is disadvantageous compared to the structure of claim 15 because if one link according to claim 15 breaks, only two adjacent corrugations are disconnected, whereas if flexible linkage 124 of Lau et al. breaks, all the corrugations of two adjacent units are disconnected and the overall structure is separated into two parts.

In new claim 15, the end portion is in the shape of an arc of a circle prior to forming the link. Flexible linkage 124 has no loop or arc of a circle prior to forming a link.

In new claim 15, each end portion forms a closed loop in a linking position after the link is formed. This forms an extremely robust connection (see application page 9, lines 35 and 36). The loops of Lau et al.'s linkage 124 are open in the linking position (see Fig. 3).

Contrast of Claim 15 with Fig. 9 embodiment

In new claim 15, each of the links is provided with (1) a single central portion, and (2) an end portion, at each of the ends of the single central portion, which is in the shape of an arc of a circle prior to forming the link. In contrast, in Lau et al.'s Fig. 9, the two loops of flexible linkage 210 are connected via two central portions. These two loops and the two central portions form a sole bow or ring. The Fig. 9 arrangement has drawbacks of low suppleness and high wear. On the other hand, the arrangement of claim 15 involving two loops separated by a single central portion overcomes these drawbacks.

Furthermore, in claim 15, each end portion is an arc of a circle prior to linking, thus facilitating assembly of the structure. This is not present in the Lau et al. structure, where flexible linkage 210 has a sole ring, and thus cannot have two arcs of a circle prior to linking.

Finally, in claim 15, the link has two closed loops in the linking position, with each loop entrapping one corrugation. In Lau et al., in the linking position, flexible linkage 210 has a sole closed ring entrapping two corrugations 206.

According to new claim 16, the at least one filament comprises two parts which are disconnected from one another and the two corrugations which are to be linked together by the link

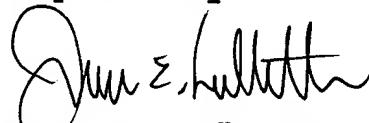
respectively constitute a part of the two parts of the at least one filament. This improves the suppleness of the structure, first by preventing these parts of the filament from rubbing together and secondly by separating from one another the two parts of the structure which are associated respectively with each of these two parts of filament.

For at least the above reasons, it is submitted that claims 1-16 are neither anticipated nor rendered obvious by Lau et al. It is respectfully submitted that all objections and/or rejections are overcome and that all pending claims are directed to allowable subject matter. Thus, a Notice of Allowance is respectfully requested.

No new fees are deemed necessitated by this Amendment.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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